

**Michigan Department of Community Health
Bureau of Laboratories
Division of Chemistry and Toxicology**

11/04

Paint Chip Sampling Procedure for Lead

Dust sampling should always be done before paint chip sampling in order to minimize the prospect of cross-sample contamination. Paint chip sampling is a destructive method that may release a small quantity of lead dust. Although paint chip samples are to be collected from inconspicuous areas, the occupant must always be notified that paint chip sampling may be necessary.

1. Paint Chip Sampling Tools and Materials:
 - a. Sharp stainless steel paint scraper (such as Proprep Scraper, \$7.50, 1-800-255-4535) available at many paint stores
 - b. Disposable ATriad® wipes for cleaning paint scraper
 - c. Non-sterilized non-powdered disposable gloves
 - d. Hard-shelled containers (such as non-sterilized 50 mL polypropylene centrifuge tubes) that can be rinsed quantitatively for paint chip samples or Ziplock baggies can be used since results are to be reported in µg/g or percent by weight.
 - e. Collection device (clean creased piece of paper or cleanable tray)
 - f. Environmental Lead Sampling Requests for Paint Chips: Environmental Lead Sampling Requisition, DCH-0558, April 2003. This is a form designed for intelligent character recognition for scanning capabilities. We do request that the city and collection date be entered below the site information in the white area. This form will be updated with those and other improvements in February 2004.
 - g. Ladder
 - h. Plastic trash bags
 - I. Flashlight
 - j. Adhesive tape
 - k. Heat gun or other heat source operating below 1100° F to soften the paint before removal (optional)

Paint Chip Sampling Procedure for Lead

2. Containment:

a. Method One: Plastic Sheeting Underneath Sampling Area

A clean sheet of plastic measuring four feet by four feet should be placed under the area to be sampled to capture any paint chips that are not captured by the collection device or creased piece of paper. Any visible paint chips falling to the plastic should be included in the sample. Dispose of the plastic at the dwelling. Wet wipes may be used to clean the area.

b. Method Two: "Glovebag" Approach

If further containment is deemed necessary, a "glovebag" approach may be used. a durable sheet of plastic is loosely taped to the surface to be sampled, with a paint scraper, collection device, and shipment container housed inside the plastic. There should be enough "play" in the plastic to permit a scraping motion without dislodging the tape holding the plastic to the surface. Large plastic baggies can be used in lieu of the plastic sheet if paint chips are to be shipped to the lab in plastic baggies. Properly conducted, this method completely seals the surface during the actual scraping operation. A four by four foot sheet of plastic is still required under the glove bag to capture any debris that falls to the ground during the glove bag removal. The tape should be slowly removed from the surface to avoid lifting any additional paint off of the surface.

3. Paint Sample Collection:

The paint chip sample need not be more than 1" x 1" in size. Persons collecting paint chips should wear new disposable gloves for each sample.

The most common paint sampling method is to scrape paint directly off the substrate. The goal is to remove all layers of paint equally, but not of the substrate. A heat gun should be used to soften the paint before removal to reduce the chances of including substrate with the sample and to help prevent sample loss. Including substrate in the sample will dilute the lead content if results are reported in µg/g or weight percent. Hold the heat gun no closer than six inches from the surface. Do not scorch the paint. Discontinue heating as soon as softening or blistering is observed.

Use a razor-sharp scraper to remove paint from the substrate. Paint samples collected in this fashion are usually reported in µg/g or % lead only. The sample may be placed in a baggie for shipment to the laboratory.

Paint Chip Sampling Procedure for Lead

4. Composite Paint Chip Sample Collection:

Paint chip samples may be composited by collecting individual subsamples from different surfaces. When results are reported in weight percent or $\mu\text{g/g}$, each subsample should have about the same weight. The result is then compared to the standard for lead-based paint divided by the number of sub-samples (the composite standard). If the result is above this number, one or more of the samples must be above the standard. Each sample should be reanalyzed individually in this case. If the result is below the number, none of the sub-samples can contain lead above the standard. No more than 5 subsamples should be included in the same sample container or ziplock baggie. If both single-surface and composite samples are collected side-by-side, the individual samples can be submitted for analysis without returning to the dwelling if the composite result is above the composite standard.

5. Cleanup and Repair:

- a. All settled dust generated must be cleaned up using wet wipes.
- b. The surface can be resealed with new paint if necessary. If desired, apply spackling and/or new paint to repair the area where paint was removed.
- c. Personnel conducting paint sampling should avoid hand-to-mouth contact (specifically: smoking, eating, drinking, and applying cosmetics) and should wash their hands with running water immediately after sampling. The inspector should ask to use the resident's bathroom for this purpose. Wet wipes may be used if no running water is available or if the bathroom is not available.

6. Form Completion:

Fill out the Environmental Lead Sampling Requisition, marking Paint Chips under sample type. Fill all other information out completely.

Chain of custody requirements should be followed if applicable.

Fees: Although the MDCH lab is non-commercial, the fee for testing environmental lead samples is \$10.00. Fee based samples will only be accepted from Counties with accredited inspectors. A check payable to the State of Michigan must be submitted with each specimen. The name of the client, or a list of clients must be submitted with the check if the name is different from the payee. Attach the check to the Environmental Lead Sampling Request. A quarterly billing for the testing services may also be arranged with the laboratory. Local public health departments are exempt from a fee when submitting "public health" related

Paint Chip Sampling Procedure for Lead

samples. Public health related samples are environmental lead testing follow-up specimens for a lead poisoned client, or investigation of a contaminated site of public health concern.

7. Quality Assurance/Quality Control:

Any sample submitted with an insufficient sample size (< 100 mg), will need additional samples collected. If analyzed an insufficient sample will be indicated on the report in the CONDITION / COMMENT field.

Any questions or problems concerning environmental lead sampling and results should be directed to:

Michigan Department of Community Health
Manager, Trace Metals Laboratory
PO Box 30035
3350 Martin Luther King Blvd.
Lansing, MI 48909
(517) 335-8244
(517) 335-9776, fax

6. Lead Hazard Identification: >5,000 µg/g (0.5%) or 1.0 mg/cm².

7. Reference: *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, U.S. Department of Housing and Urban Development, June, 1995. Copies of the Guidelines are available for a small handling fee from HUD USER at 1-800-245-2691.